patients with type 2 diabetes and nephropathy over 3.4 years. The clinical outcome data were based on the results from the RENAAL trial. Direct medical costs referred to the purchase costs of losartan and the cost of National Health Service (NHS) hospitalization. The costs were discounted back at an annual rate of 3%. Also sensitivity analysis was performed. **RESULTS:** RENAAL study establishes that losartan, along with conventional antihypertensive treatment as needed, confers strong renal protection in patients with type-2 diabetes and nephropathy. Globally, the total cost over 42 months of follow-up was estimated at 9.802,49 € in the losartan and €13,405,47 in the placebo group, resulting into a cost saving of €3602.98 per patient. Results were robust to both clinical and economic variables. **CONCLUSIONS:** In addition to the medical benefit, this analysis demonstrated the economic relevance of treatment with losartan in type 2 diabetic patients with nephropathy.

PDB30

CSII COMPARED TO MDI: A HEALTH ECONOMIC ANALYSIS IN THE GERMAN HEALTH CARE SETTING

Neeser K, Kocher S, Weber C, Heister F
Institute for Medical Informatics and Biostatistics, Basel, Switzerland

OBJECTIVES: A recently published health technology appraisal (NICE guidance 57) on continuous subcutaneous insulin infusion (CSII) therapy considered observational studies to complement RCTs in the assessment of effectiveness of CSII in type 1 diabetes patients. **Observational studies showed significantly higher improvements in** HbA1c levels with CSII compared to **multiple daily injections (MDI) as available RCTs** did. Furthermore, a statistically significant decrease of severe hypoglycaemic episodes has been stated. **Our model based analysis assessed the clinical and economical impact** in Germany. **METHODS:** The following baseline assumptions were applied within our validated type 1 diabetes model: (1) patient characteristics at simulation start (age 26 years, duration of diabetes 12 years, baseline HbA1c 8.7%,); (2) a HbA1c improvement by CSII compared to MDI of 0.6% (RCTs) and 1.2% (observational); (3) reduction of severe hypoglycemic events by 50%; (4) costs for insulin pumps €3,680 during an amortization period of 4 years; (5) annual costs for infusion sets €1,040. **RESULTS:** With CSII total life time costs per patient increased by €50,967 / €36,873 with an HbA1c reduction of 0.6% / 1.2%. Life expectancy increased by 0.99 / 2.00 years, respectively. In consequence RCTs yield to an incremental cost-effectiveness ratio (ICER) of €51,736 and observational studies to €18,359 per life year gained. Life time cumulated costs for nephropathy and amputation with CSII compared to MDI decreased by €10,787 / €22,967 and €1,183 / €2,462, respectively. **CONCLUSIONS:** The NICE appraisal judged observational data in CSII as better resembling the population in routine care. Data derived from observational studies indicate that HbA1c-reductions can be distinctly higher than described in RCTs. In consequence the ICER could improve considerably. In the underlying analysis the additional costs for insulin pump and consumables are partially compensated by the reduced complication-related costs due to the improved glycemic control in CSII therapy.

PDB31

COST-EFFECTIVENESS ANALYSIS OF VOGLIBOSE FOR PREVENTION OF TYPE-2 DIABETES MELLITUS IN JAPANESE INDIVIDUALS WITH IMPAIRED GLUCOSE TOLERANCE

Ikeda S[1], Kobayashi M[2], Tajima N[3]
[1]International University of Health and Welfare, Ohtawara, Tochigi, Japan, [2]Crecon Research and Consulting Inc, Shibuya-ku, Tokyo, Japan, [3]Jikei University School of Medicine, Minato-ku, Tokyo, Japan

OBJECTIVES: A multicentre, randomised, double-blind, placebo-controlled clinical trial was conducted in Japanese impaired glucose tolerance (IGT) population to evaluate the effect of preventing the development of type-2 diabetes mellitus (T2DM), and a significant effect of voglibose in preventing the development of T2DM was confirmed compared to the placebo. The objective of this analysis was to estimate the cost-effectiveness of administering voglibose in addition to standard care of diet and exercise compared to standard care alone for high-risk Japanese individuals with IGT. **METHODS:** An annual cycle Markov model was constructed to estimate the long-term prognosis of individuals with IGT (56-years-old), in terms of expected medical costs, and life expectancy. The Markov model consisted of five stages: normal glucose tolerance, IGT, T2DM, dialysis and death. Transition probabilities were derived from the results of the voglibose clinical trial as well as the epidemiological information. Costs included the drug acquisition cost of voglibose, IGT management cost, annual medical costs of T2DM and cost of dialysis. Effectiveness was evaluated by life expectancy. The future costs and effectiveness were discounted by 3% per year. **RESULTS:** Expected lifetime costs for the voglibose administration group and the standard care group were calculated at JPY718,724 (€5,380) and JPY1,365,405 (€10,220) respectively, with voglibose administration resulting in an estimated saving of JPY646,681 (€4,840). Life expectancy was calculated at 18.672 years and 18.073 years respectively, with life expectancy prolonged by 0.599 years when voglibose was administered along with the standard care. **CONCLUSIONS:** In order to prevent T2DM among Japanese individuals with IGT, intervention by voglibose together with the standard care for life-style modification resulted in the expectation of long-term cost-saving, as well as prolongation of life expectancy, compared to the standard care of conducting only diet and exercise therapies.

PDB32

COST-EFFECTIVENESS OF NICOTINE REPLACEMENT THERAPY (NRT) FOR SMOKING CESSATION IN PATIENTS WITH CORONARY HEART DISEASE (CHD), DIABETES MELLITUS TYPE 2 (DMT2) AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN GERMANY

Aidelsburger P[1], Lang K[1], Wasem J[2]
[1]CAREM GmbH, Sauerlach, Germany, [2]University of Duisburg-Essen, Essen, Germany

OBJECTIVES: CHD, DMT2 and COPD constitute an enormous burden of disease due to high prevalence, severe co-morbidities, increased mortality and high costs for society. Smoking is a main risk factor for developing the mentioned diseases and has a major impact on the disease development. Aim of the presented study was to analyze the incremental cost-effectiveness ratios (ICER) of smoking cessation with NRT compared to Placebo/no intervention for patients with CHD, DMT2 and COPD. **METHODS:** The ICERs were calculated for each study population by use of separate Markov-Models. Patient started the models in the age of 45 years and undertake a single quit attempt with NRT or Placebo/no intervention. According to the likelihood of success, the diseases' long-term natural courses are simulated for either smokers or ex-smokers. Input data such as success rate of smoking quit attempt, transition probabilities, costs (base year 2008) are based on systematic literature researches and internal calculations. From the perspective of the German Statutory Health System, incremental costs per life-year gained (LYG) are calculated. Assumptions and uncertain parameters are set conservatively and tested in multiple sensitivity analyses. **RESULTS:** Within a simulated time horizon of 55 years, smoking cessation with NRT is the dominant strategy: in all indications, NRT leads to additional LYGs at lower costs compared to Placebo/no intervention. NRT remains the dominant strategy throughout most sensitivity analyses. The parameters of highest influence on the outcome are the effectiveness of both strategies and additionally considered costs for smokers. **CONCLUSIONS:** NRT is a cost-effective treatment option for smoking cessation compared to Placebo or no intervention in patients with CHD, diabetes and COPD. The results of these analyses are robust to the variation of numerous model parameters and assumptions.

PDB33

A COST-EFFECTIVENESS ANALYSIS OF CONTINUOUS SUBCUTANEOUS INSULIN INJECTION VS. MULTIPLE DAILY INJECTIONS IN TYPE-1 DIABETES PATIENTS IN ITALY

Giardina S[1], Lynch P[2], Papo NL[3]
[1]Medtronic Italia, Sesto San Giovanni (MI), Italy, [2]Medtronic, Northridge, CA, USA, [3]Medtronic International, Tolochenaz, Switzerland

OBJECTIVES: To **project long term costs and outcomes for continuous subcutaneous** insulin infusion (CSII) compared with multiple daily injections (MDI) of insulin in adult type-1 diabetes mellitus (T1DM) patients in Italy from the National Health Service (NHS) perspective. **METHODS:** The CORE Diabetes Model (CDM) was used to determine the incremental cost-effectiveness ratio (ICER) of CSII compared with MDI among adult patients with T1DM in Italy. The primary input variable was change in HbA_{1c} and assumed to be a 1.2% improvement for CSII as compared to MDI in a cohort of Italian T1DM patients with an average HbA_{1c} baseline value of 8.95%. It was also assumed that CSII patients had 50% less hypoglycemic events compared with MDI patients. A series of Markov constructs simulated the progression of diabetes-related complications. The average annual cost for CSII and MDI were €5699.20 and €2734.71, respectively. The costs were derived from Italian-specific sources and other published data. A 60-year time horizon and a discount rate of 3.0% *per annum* on costs and clinical outcomes were used. **RESULTS:** Treatment with CSII was associated with improvements in life expectancy of 0.981 years vs. MDI and quality adjusted life year (QALY) of 1.063 years vs. MDI with corresponding ICERs of €34,541 per life-year and €31,879 per quality-adjusted life year (QALY) gained for CSII compared with MDI. The cumulative incidence of end-stage renal disease (ESRD) was reduced by 18% (RR = 0.816) with a NNT of 22 patients to avoid one case of ESRD.while cumulative incidence of peripheral vascular disease (PVD) was reduced by 14% (RR = 0.856); with a NNT of 46 patients to avoid one case of PVD. **CONCLUSIONS:** Setting the willingness to pay at €40,000/QALY (based on a £30,000 NICE threshold), CSII is a cost-effective treatment option when compared to MDI for adult patients with T1DM in Italy.

PDB34

LOWER LONG-TERM COSTS IN GERMAN TYPE-2-DIABETICS STARTING A BASAL SUPPORTED ORAL THERAPY (BOT) WITH INSULIN GLARGINE COMPARED TO NPH-INSULIN

Kotowa W[1], Reichelt A[1], Pfohl M[2], Dippel FW[3], Pirk O[1]
[1]IMS HEALTH GmbH & Co. OHG HEOR, Nuremberg, Germany, [2]Evangelisches Bethesda-Johanniter-Klinikum GmbH, Duisburg, Germany, [3]Sanofi-Aventis Deutschland GmbH, Berlin, Germany

OBJECTIVES: To compare the direct treatment costs in insulin-naïve type-2-diabetics (T2D) starting a basal supported oral therapy (BOT) with either insulin glargine (GLA) or NPH-insulin (NPH) over 10 years focusing on the different persistence to these regimens. **METHODS:** A cost-minimization approach was applied. The analysis was conducted from the German statutory health insurance (SHI) perspective. A Markov model was developed simulating the onset of a BOT with GLA or NPH at a ratio of 1:1 and thereafter switching to an intensified conventional therapy (ICT) with the same basal insulin in the course of 10 years. Persistence data were obtained from the IMS Disease Analyzer database [1] considering the first 6 months after starting BOT as titration phase. Cost data were derived from a German cost evaluation in an